

Attachment 6
Monitoring, Assessment, Performance Measures

City of Firebaugh Well #7 Replacement Project

Description	
<i>Project Specific Goals:</i>	<ol style="list-style-type: none"> 1. Provide safe drinking water to residents that meets all federal and state drinking water standards; 2. Provide adequate source capacity for drinking and fire suppression that meets the requirements of the State of California, Department of Health Services; 3. Provide affordable water to the residents of Firebaugh.
<i>Desired Outcomes:</i>	<ol style="list-style-type: none"> 1. Decreased levels of arsenic, sand, and other water-pollutants in City water supply; 2. Maintained level of water usage in the City, not to decrease below the current water levels; 3. Improved water supply reliability for drinking, agricultural use, and fire emergency services; 4. Decrease cost of water supply distribution system maintenance and operation.
<i>Output Indicators:</i>	<ol style="list-style-type: none"> 1. New well to replace existing Well #7 in the City of Firebaugh.
<i>Outcome Indicators:</i>	<ol style="list-style-type: none"> 1. <i>Water quality:</i> Levels of arsenic, sand, and other water contaminants in the water supply significantly drop; 2. <i>Water supply:</i> Amount water availability and reliability improves to “normal” standards; 3. <i>Affordability:</i> cost of water supply maintenance decreases.

Measurement tools and methods:

City will use the following tools and methods to measure the output and outcome indicators identified above:

1. *Water quality measurement:* continue water supply and quality checks conducted by the City's Public Works Department, or, at least conduct monthly checks on water supply and quality. These checks will allow the City to measure the levels of arsenic, sand, and other water-pollutants in the water supply. Checks will continue to be performed on all City wells, including the replacement of Well #7 this project produces. These measurements will determine the project's ability to effectively meet the desired outcome of reducing levels of arsenic, sand, and other water-pollutants in the City water supply
2. *Water supply measurement:* Significantly due to pollution, the existing Well #7 has lost production capacity such that the City does not have an adequate water supply to meet its demands. To determine if the new well produced by this project will alleviate this shortage in supplying the City's water demand, City water meters will be monitored to assess changes in water demand and supply usage. The City currently maintains a water-metered distribution system that tracks water demand and supply usage. This measurement will determine the project's effectiveness in maintaining the current water demands and avoiding supply shortages.
3. *Affordability:* Monitor costs of Replacement-Well #7 maintenance and operation. The current water pollution and sand contamination has damaged pump equipment and blocked the distribution system with sand. This damage to the well and distribution system requires

maintenance levels above normal. This measurement will determine the changes in maintenance costs associate with Well #7. The measurement should provide evidence on the ability of the project to effectively lower maintenance costs and therefore, the overall affordability of the water supply.

Targets:

These targets are listed as one-time measurement and not set incrementally because the project is not carried out overtime and the project should produce these outcomes at the time of project completion.

Water Quality:

1. Decreased levels of arsenic by 5 times the current levels in existing Well #7. Arsenic levels targeted to be found below the current allowable level of .01 mg/L (according to the CDPH 2008).
2. Decreased levels of sand by 3 times the current levels in existing Well #7.
3. Overall pollution load reductions by 2-3 times the current levels in existing Well #7.

Water Supply:

1. Maintain current level of water acre-feet of water supply.
2. Improved supply reliability according to public works overall well maintenance assessments.

Affordability:

1. Decreased cost of maintenance of Replacement-Well #7 by 2-3 times current levels, or to equate with a comparable sized well in production.

City of San Joaquin Water Meter Installation

The City's Water Conservation Strategy, adopted in 2009, identified a goal of 20% water savings by the year 2011. While the strategy was multi-faceted, installation of water meters was identified as the primary means to attain that goal, as EPA guidance estimates that water use can be reduced by 20% when meters are installed.

The primary performance measure for the project will therefore be the reduction in water use on the newly metered services. The monitoring system to be used will be continued tracking of the City's municipal well production records, as the City is entirely dependent on groundwater supply for their consumption. The total demand from all three City production wells will continue to be monitored with a reduction target of 34.7 million gallons per year representing a 20% reduction on the 640 residential services to receive meters with this project. Additionally, the individual meter readings will provide a comparison with previously assumed average annual use per customer. Both of these monitoring measures can be reviewed to compare actual results against anticipated results.

The IRWM Plan identifies Water Conservation as Objective #8 of the Regional Objectives, which seeks to "always promote and enhance water conservation." Monitoring the water use savings in San Joaquin can be used to help measure the performance in meeting this objective of the IRWM Plan.

CITY OF SAN JOAQUIN PROJECT PERFORMANCE MEASURES TABLE

	Description
<i>Project Specific Goals:</i>	Water Conservation
<i>Desired Outcomes:</i>	20% Savings in water consumption on metered services
<i>Output Indicators:</i>	Total annual water demand (million gal per year)
	Average annual water demand per metered customer (gal/customer/year)
<i>Outcome Indicators:</i>	Decrease in water consumption
<i>Measurement tools and methods:</i>	Well records of total combined production of wells 3, 4 and 5
	Individual meter readings
<i>Targets:</i>	34.7 million gallons of water saved per year

City of Tracy Recycled Water Project Phase I and Phase II

City of Tracy Water Recycling Project
Project Title: City of Tracy Recycled Water Project Phase 1

Description	
<i>Project Goals:</i>	The goal of the project is to increase the City's recycled water use. For phase 1, it is to construct the initial facilities associated with the connection to the City's wastewater treatment plant (WWTP) and provide recycled water to the Holly Sugar Sports Complex, which consists of about 160 acres of fields and starts construction in summer 2011. Play on the first fields is expected in spring of 2013.
<i>Desired Outcomes:</i>	<p>The increase in recycled water use will:</p> <ol style="list-style-type: none">1. Help the City meet the goal of a 20% reduction in water use per person by the year 2020.2. Reduce the amount of water that is directly taken from the Delta. Current planned irrigation supply for the sports complex is a Riparian Right to Old River that currently serves the property.3. Reduce the sizing of future WWTP facilities and their operations which are tied to Old River discharges.4. Help the City reduce their WWTP river loadings and meet their NPDES requirements for the WWTP operations.
<i>Output Indicators:</i>	Gallons of recycled water used
<i>Measurement tools and methods:</i>	Phase 1 project will connect to the WWTP. There will ultimately be a pump station at this location that feeds three proposed distribution system pipelines. The flows in these lines will be metered. Phase 1 will construct a 24" pipeline. The phase 1 cost estimates shown in the project budget for the connection facilities at the WWTP include the installation of a meter and associated

	<p>facilities with the construction of the 24" line. Daily, monthly, and annual water use totals will be recorded. At minimum, annual recycled water use will be reported to the state through the UWMP process, as well as annual city water reports that are prepared for the City Council and current water users.</p>
<i>Targets – Phase I:</i>	<p>The estimated irrigation demands at the Holly Sugar Sports Complex are 734 ac-ft per year at completion of the park, per Nolte Study. It is anticipated that the first demands will begin in 2013 with about 20% of the parks irrigation demands anticipated to come online each year for the first five years of the park's operation (shown in Table 13 estimated Avoided Water Supply Costs).</p>
<p align="center"><u>Project Title: City of Tracy Recycled Water Project Phase II</u></p>	
	Description
<i>Project Goals:</i>	<p>The goal of the project is to increase the City's recycled water use. For phase II, it is to extend the facilities constructed in Phase 1 to the intersection of Lammers Road and 11th Street in the City. At this location, connections to both existing pipelines and planned facilities will occur. Phase II will also construct the pump station at the WWTP for the recycled water system and the first storage facilities for the distribution system.</p>
<i>Desired Outcomes:</i>	<p>The increase in recycled water use will:</p> <ol style="list-style-type: none"> 1. Help the City meet the goal of a 20% reduction in water use per person by the year 2020. 2. Reduce the amount of water that is directly taken from the Delta. Current planned irrigation supply for the sports complex is a Riparian Right to Old River that currently serves the property. 3. Reduce the sizing of future WWTP facilities and

	<p>their operations which are tied to Old River discharges.</p> <ol style="list-style-type: none"> 4. Help the City reduce their WWTP river loadings and meet their NPDES requirements for the WWTP operations.
Output Indicators:	Gallons of recycled water used
Measurement tools and methods:	<p>Phase 2 project will construct the meter facilities for recycled water use. It is also anticipated that all of the future connections to the recycled water system will be metered. Daily, monthly, and annual water use totals will be recorded. At minimum, annual recycled water use will be reported to the state through the UWMP process, as well as annual city water reports that are prepared for the City Council and current water users.</p>
Targets – Phase II:	<p>To meet the estimated recycled water demands identified in the City’s water master plan on the west side of the City for :</p> <ol style="list-style-type: none"> Existing irrigation demands that are being met with potable water and that will be converted to recycled water and; New development areas which are anticipating the use of recycled water for irrigation and other needs. <p>It is anticipated that the first demands can be met in 2015. Initial demands will be from the existing Plasencia Fields and Tracy Sports Complex located on 11th Street. Also, the Tracy Gateway Business Park is starting construction on the first 39 acres of development, and facilities to this area are planned for construction by the City in 2012. Lastly, the City has recently completed a general plan update and currently is completing the associated master plan study updates. There are multiple projects actively participating in the master plan process with anticipated start dates by 2015. Each of these areas has an</p>

anticipated 30-year build-out with an estimated recycled water demand of 3,000 ac-ft of water per year (shown in Table 11 Estimated O&M Backup Costs).

WSID and DPWD Water Supply Enhancement Project

The objective of the project is to improve surface water supply reliability in WSID, DPWD and other potential project beneficiaries south of the Delta through improved management of existing south of the Delta water supplies. The performance of the project will be measured by the number of additional acre-feet of water supply made available to south of the Delta water users from use of the Intertie. This measurement of performance will be determined by the additional SJR water that WSID can convey to the DMC for storage in San Luis Reservoir for rescheduling or use later in the same water year along with the number of acre-feet of water that can be moved from the SJR to the DMC for delivery to other water users, such as, recycled water for DPWD and other transfers of eastside water to the westside. All facilities proposed as part of the WSE project include metering systems that will be used to verify the volumes of additional water attributable to the project. WSID and the SLDMWA will be responsible for monitoring and reporting of all water conveyed to the DMC through the Intertie. The SLDMWA operates and maintains the DMC under an agreement with the United States Bureau of Reclamation.